



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/605,637	06/28/2000	Hiroki Yoshida	018775-795	6560
21839	7590	08/12/2004	EXAMINER	
BURNS DOANE SWECKER & MATHIS L L P			WU, JINGGE	
POST OFFICE BOX 1404			ART UNIT	PAPER NUMBER
ALEXANDRIA, VA 22313-1404			2623	12

DATE MAILED: 08/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/605,637

Applicant(s)

YOSHIDA, HIROKI

Examiner

Jingge Wu

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7-10, 12, 13, 19-22 and 24 is/are rejected.
- 7) ☐ Claim(s) 3-6, 11, 14-17 is/are objected to.
- 8) ☒ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Amendment

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under Ex Parte Quayle, 1935 Comm'r Dec. 11 (1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on April 29 has been entered.
2. Applicants' response to the last Office Action, filed on February 13, 2004 has been entered and made of record.
3. Applicants' amendment has required new grounds of rejection. New grounds of rejection are therefore presented in the Office Action.
4. Applicant's arguments with respect to claims 1-2, 7-10, 12-12, 18-20 have been fully considered but are moot in view of the new ground(s) of rejection. Examiner would like to point that the amended claims 1, 10, and 12 do not mention anything related to different correction method for each type of classification or what is the correction method. Thus, any type correction method could be used for each type of classification of skin area. Therefore, Nakamura can still be read on the portion of amended claims.
5. Newly submitted claim 23 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

- I. Species of a method, image processor of classifying plurality of skin colors through area extractor and histogram (claims 1-22 and 24);
- II. Species of a method of converting colors to HSL and Lab space to extracting skin areas (claim 23).

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 23 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 10, 12, 21-22 and 24 are rejected under 35 U.S.C. 102(a) as being anticipated by US 6088137 to Tomizawa (a reference of record).

As to claim 1, Tomizawa discloses an image processor, wherein characteristics of plurality of skin colors are classified beforehand, comprising:

an area extractor which extracts skin areas from input image data (fig. 8, S51-53, col. 6 lines 10-29);

a decider which decides which type (white, yellow, and black race) in the classification each of extracted skin areas belong (Figs. 9, 5 and 9, col. 6 lines 51-67).

an image corrector (thresholding to extract face image) which corrects image data of each of the skin area extracted by said area extractor according to a correction method (thresholding) provided beforehand (the threshold value is obtained beforehand) for each type of the classification (Fig. 10, col. 7 line 22-col. 8 line 28, note that the threshold value is calculated beforehand to extract face and there will be different threshold for each race)

Claims 10, 12, 21 are the corresponding method, computer readable medium, and image processor claims to claim 1. The discussion are addressed with regard to claim 1.

As to claim 22, Tomizawa further discloses first extracting skin candidate area from image data of an entire area (fig. 10, 10, extracting color areas) and then secondly extracts skin areas (face area) from the image data in said skin candidate areas (fig. 10, 4, col. 7 line 15-col. 8 line 23).

As to claim 24, Tomizawa discloses an image processing method comprising the steps of :

extracting skin candidate areas from image data of an entire area by use of a first method (fig. 10, 10, extracting color areas by color component discrimination col. 7 lines 16-38);

extracting skin areas (face) from the image data in the extracted skin candidate areas by use of a second method different from the first method (col. 7 line 58-col. 8 line 23, note that thresholding for face area is different from the first method)

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 8-10, 12-13, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomizawa in view of US 5309228 to Nakamura (a reference of record).

As to Claims 2, Tomizawa discloses histogram (distribution or dispersion) but does not explicitly mention utilizing average and center of gravity of the histogram.

Nakamura, in an analogous environment, further discloses the area extractor determines the characteristic of the skin areas according to average, dispersion (distribution), and center of gravity from a histogram of image data of each of the skin area (col. 15 line 56-col. 16 line 17, col. 28 lines 19-68).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the features of Nakamura in the system of Tomizawa in order to accurately extract the colored skin area from the image (Nakamura, col. 1 line 38-col. 2 line 22).

As to claims 8 and 19, Nakamura further discloses the area extractor extracts the candidates areas from image data, converts the color specification system of the image

data for each of the skin candidate area based on the image data in the color specification system (col. 20-col. 22).

Claim 13 is the corresponding computer readable medium claims to claim 2. The discussions are addressed with regard to claim 2.

As to claims 9 and 20, Nakamura discloses all limitations (Fig. 4a-c, and Fig. 22, col. 13-14, col. 27-28) except rectangle area and threshold of hue for the pixels.

Examiner takes Official Notice that those features are notoriously well known in the art, e.g. dividing the image into blocks and thresholding a color pixel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the features in the system of Nakamura in order to accurately extract the colored skin area from the image.

10. Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomizawa in view of US 5075788 to Funda.

As to claims 7 and 18, Tomizawa discloses all limitations except generating a correction curve.

Funda, in an analogous environment, discloses the step of generating a correction curve by modifying the color histogram (col. 10 lines 48-59 and col. 11 lines 41-col. 12).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the curve of Funda in the system of Nakamura in order to accurately correct the colored skin area from the image (Funda, col. 1 lines 11-48).

Allowable Subject Matter

11. Claims 3, 11, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 4-6 and 15-17 depend from claims 3 and 14 are, therefore, objected.

Contact Information

12. Any inquiry concerning this communication or earlier communications should be directed to Jingge Wu whose telephone number is (703) 308-9588. He can normally be reached Monday through Thursday from 8:00 am to 5:30 pm. The examiner can be also reached on second alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to TC customer service whose telephone number is (703) 306-0377.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amelia Au, can be reached at (703) 308-6604.

The Working Group Fax number is (703) 872-9314.

Jingge Wu

Primary Patent Examiner

